

# Proceedings Submission

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**1. Title of the submission**

*PROJECT OPEN DOORS/OPEN DOORS ACADEMY*

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**6. Abstract of Paper:**

***PROJECT OPEN DOORS/OPEN DOORS ACADEMY***

**Proposed One Month Residential Summer Programs**

Project Open Doors	Pilot Study Phase 1	25-30 Girls
Open Doors Academy	Phase 2	50-60 Girls

Project Open Doors/Open Doors Academy, a conceptual model of a Murray State University College of Education Special Outreach, is designed to stimulate the interest of low income or economically disadvantaged middle school girls of color in Science, Technology, Engineering and Mathematics (STEM) career fields. Our target population has historically been under-represented in careers requiring advanced coursework in these areas. The main components of Open Doors will include mentoring and career advisement to empower girls to make intelligent curricular selections and hands-on “fun” instructional activities conducted by their teachers. The purpose of the Pilot Phase 1 Project Open Doors is to assess the effectiveness of the proposed project and build a solid foundation for Phase 2, the full proposal for the Open Doors Academy.

**INTRODUCTION**

The United States is actively engaged in an economic battle to meet the challenges of productivity and international competitiveness of a global labor market, demanding increased technological, scientific and mathematical skills. At a time when jobs require higher levels of scientific and mathematical literacy, American economic progress may be threatened with a shortage of technical brainpower. (Progressive Policy Institute, 2002). This, in part, is the outcome of the failure to maximize the potential of minority females, who often fail to enroll in advanced science and mathematics courses. This self-selection out of higher-level courses acts as a ‘critical filter’ limiting college majors, post-secondary career options and college admission (Sells, 1973; American Association of University Women, 1998). The goal of Project Open Doors/Open Doors Academy is to provide a pre-collegiate outreach to utilize the untapped potential of minority middle school girls by providing gateway experiences into careers requiring advanced science and mathematics preparation.

**PROJECT OPEN DOORS/OPEN DOORS ACADEMY**

The co-directors envision Project Open Doors/Open Doors Academy as a custom-tailored month-long residential camp that will encourage middle school females of color to select STEM courses and to explore careers in these fields. Our goals, to enhance girls’ problem solving and critical thinking proficiencies required for advanced STEM courses, would be accomplished with these interconnected strands:

Strand 1: Middle School Girls (Hands-on Classroom and Field Activities)

Strand 2: Parents/Caregivers/Advocates of Participants (Follow-up activities for home)

Strand 3: Teachers/ School Personnel (Professional Development/Inservice Seminars)

and

Strand 4: Follow-up Activities (Mentoring by campus ad community volunteers).

### **IMPORTANCE OF OPEN DOORS**

There are a plethora of studies that document the importance of a solid science/mathematics foundation for girls (Campbell, P.B. & Hoey, L, 1998). Moreover the American Association of University Women (1998) has identified female adolescence as the stage when science/mathematics enthusiasm declines at a significantly higher rate than their male counterparts. Therefore, the female adolescent years would be the most advantageous period to initiate the Open Doors' outreach to increase the visibility and attractiveness of careers requiring advanced science and mathematics. (American Association of University Women, 2000; Camp, 2002).

### **OBJECTIVES OF OPEN DOORS/OPEN DOORS ACADEMY**

The ultimate goal of Open Doors/Open Doors Academy is to surmount some the overt and covert barriers that dissuade middle schools girls of color from reaching their full potential in Science, Technology, Engineering and Mathematics (STEM) course selection and career fields. The objectives of our meaningful intervention are to:

- encourage girls to pursue higher levels of STEM literacy
  - eliminate misconceptions about the appropriateness of STEM career options
  - facilitate positive interactions among middle school girls and STEM role models/mentors
  - provide “fun” teacher lead collaborative, small group, hands-on activities which promote participation and increase learning
  - initiate follow-up programs with the support our network of STEM female role models/mentors, school districts and Murray State University Faculty
  - develop a prototype with the potential for replication regionally, nationally and internationally
- and
- enhance problem-solving skills, utilizing scientific inquiry methods as a foundation for advanced level STEM courses.

### **EVALUATION**

The effectiveness of the pilot phase, Project Open Doors, would be assessed through post participation data collected from the middle school girls. Feedback from our National Advisory Board and Local Board of Directors would also be utilized. This would allow the Project to be revised and adjustments made to the full Open Doors Academy proposal. In addition, a longitudinal study would document the mathematics/science course selections of participants. Finally, the prospects of success for Open Doors/Open Doors Academy are excellent because the co-directors' strategy is to tailor it to meet the needs of our community and region.

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